

ABSTRACT

The present invention relates to a technology for recovering chemical energy of combustibles in the form of hydrogen gas and a technology for converting hydrogen gas to electric energy with high efficiency. A hydrogen production method by gasification of combustibles comprises a gasification step (1) for gasifying combustibles (a) and a gas processing step (1a) for producing hydrogen by refining the gas (b) produced in the gasification step (1). The gas processing step (1a) comprises a gas scrubbing step (2) for absorbing and removing dust and a trace amount of acid gases such as hydrogen chloride and hydrogen sulfide in the produced gas (b) obtained in the gasification step (1) by bringing the produced gas into contact with water or alkali solution, and a carbon monoxide adsorption step (7) for adsorbing and separating carbon monoxide by bringing the produced gas (b) scrubbed in the gas scrubbing step (2) into contact with carbon monoxide adsorbent.